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The Computerized Vocational Information System (CVIS) team, has designed a system utilizing a computer as a tool to help students explore occupations in the light of their own student records. This system aims at teaching a decision-making process in a way that interests students and allows counselors more time for counseling functions. The project was developed in five phases. Using Poe's two-dimensional classification, occupations were divided into six levels by amount of training and responsibility required. These six levels were then divided into eight categories of interest. Student records in computer storage include cumulative class rank, composite score on battery of tests, and interest inventory scores. Students use the system voluntarily and during a sophomore vocational unit. Each counselor also has a display terminal in his office. Student attitude is highly positive. Appended is the script, beginning list of occupations, sample brief, student-record displays, and an evaluation questionnaire. (KP)

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A REPORT ON PROJECT CVIS

(Computerized Vocational Information System)

In operation at Willowbrook High School

Villa Park, Illinois

Prepared for the National Convention

of Research Co-ordinating Unit Directors

Salt Lake City, Utah

March 25-27, 1969

CG 003950

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A P P E N D I C E S

Script

Beginning List of Occupations

Sample Brief

Student-Record Displays

Questionnaire

1. Statement of Goals

It has been our experience in a real-life counseling situation at Willowbrook High School in Villa Park, Illinois, that the dissemination of meaningful information about occupations is our most difficult guidance task. Lack of counselor time, counselor knowledge about occupations, student interest in traditional vocational exploration, and ways to relate data about students to data about occupations are powerful deterrants to the development of relevant vocational guidance programs.

The Willowbrook team which created and designed CVIS has adopted the computer as a tool to help students explore occupations in the light of their own student records. In so doing, the CVIS team has defined the following goals:

1. To provide a system by which a student may explore (not choose) a wide range of occupations with some feedback from his own record of ability, achievement and interest.
2. To teach a decision-making process.
3. To accomplish the preceding goals in a way that is innovative enough to capture student interest.
4. To assign to the computer the data retrieval and comparison functions it performs best and to give human counselors more time to perform the counseling functions which require sensitivity and human communication.

We invite you to help us measure the degree of our success in accomplishing these goals.

II. Summary of Development to Date

The preliminary ideas about CVIS were formulated in the fall of 1966 by three counselors at Willowbrook High School - Miss Lorraine Foster, Vocational Counselor; Mr. Willis Farnham, and Miss JoAnn Harris, Director of Guidance. Later, the school psychologist, Mr. Robert Austin, and the Chairman of the Mathematics Department, Mr. James Boyd, were added to the team.

In December, 1966, the first proposal was submitted to the Research Co-ordinating Unit of the Illinois State Board of Vocational Education and Rehabilitation. The development of the project was outlined in five phases as follows:

Phase I - January-June, 1967

Two members of the team (Harris & Foster) were to investigate all other computer-based guidance projects in the United States and become cognizant of their goals and development. In addition, these two took an introductory course in computer programming in an attempt to understand the computer and its possible application to the guidance field.

Phase II - August, 1967

The five-member team proposed to spend three weeks in a brain-storming mode. The result was to be the theoretical and technical blueprint for Project CVIS, which is summarized later in this report.

Phase III - September, 1967-September, 1968

The purpose of this phase was to make all the preparations necessary for operational phase. The work accomplished in this phase was:

1. Writing of the computer program.

2. Investigation and ordering of appropriate computer equipment.
3. The formation of a computerized student record. This involved joint planning by all pupil personnel workers; the meshing of information from Guidance, registrar, health, reading, deans and psychological files onto one common worksheet; Key-punching of 1800 records; and planning of the format to be displayed on counselor terminals.
4. The securing of 400 occupational briefs. Three hundred-fifty of these were written for the project by the J.G. Ferguson Company (New York and Chicago) free of charge. Fifty were written by the Project Director. All were read, corrected, and key-punched.
5. Writing and testing of scripts.

Phase IV - October 1, 1968-September 30, 1969

This phase is the one in which we are currently engaged. It is the first year of operation with students. The computer equipment was installed in late October. November and December were de-bugging and technical problem months. Smooth operation of the system with both students and counselors began in January. Since January 6, 1969, 531 students have used CVIS on a voluntary basis. Also, during this phase the project team is involved in preliminary evaluation of the system and in massive development (script writing and programming) of the next phase.

Phase V - October 1, 1969-June 30, 1970

This phase will implement the decision-making scripts which

were written in Phase IV. These scripts and programs will allow students to learn and make decisions about all the gateways to careers-military training opportunities, apprenticeships, local jobs, technical and specialized schools, community college occupational curricula, and four-year colleges. This phase will also include the updating of vocational information, further evaluation, and the writing of some computer-assisted instruction courses for vocational education.

The work has been carried out on schedule as proposed in the original proposal. Further, the Board of Vocational Education has continued to support the project, currently at the 75% level, as proposals and reports are submitted one phase at a time.

III. The Theoretical Framework

After consideration of numerous systems of job classification, the Committee decided to use the two-dimensional classification system developed by Dr. Anne Roe, formerly of Harvard Graduate School of Education, and explained in her book, The Psychology of Occupations (John Wiley & Sons:New York, 1956). Roe's classification divided occupations into six levels by amount of training required and degree of responsibility assumed by the worker. Briefly, the six levels are as follows:

Level 1: Professional and Managerial 1. This level requires high-level policy-making decisions and independent, varied responsibilities. If education is a relevant factor, it is at the doctoral level or equivalent.

Level 2: Professional and Managerial 2. The distinction between this level and the above one is one of degree. These jobs may have autonomy, but the responsibility is less than in Level 1. These occupations normally require policy interpretation and education at or above the bachelor level, but below the doctoral.

Level 3: Semi-Professional & Small Business. These jobs have a low degree of responsibility for other people and application of policy or determination for self only. Education is normally high school plus technical school or the equivalent.

Level 4: Skilled. This and the following levels are classic subdivisions. Skilled occupations require apprenticeships or other special training experience.

Level 5: Semi-skilled. These occupations require some training and experience but markedly less than the occupations in Level 4. In addition, there is much less autonomy and initiative permitted in these occupations.

Level 5: Unskilled. These occupations require no special training or education and not much more ability than is needed to follow simple directions and to engage in simple repetitive actions.

Further, Roe divided occupations into eight categories of interest which are to some extent contiguously arranged. The eight interest categories are as follows:

1. Service. These occupations are primarily concerned with serving and attending to the personal tastes, needs, and welfare of other persons. Included are occupations in guidance, social work, domestic and protective services.
2. Business Contact. These occupations are primarily concerned with face-to-face sale of commodities, investments, real estate, and services. Also included are such occupations as demonstrator, auctioneer, and some kinds of agents. A distinction is made in sales occupations between those in which the job is personal persuasion, which belong here, and those in which the selling is routine, and the person-to-person relation relatively unimportant, which belong in the next group.
3. Organization. These are the managerial and white collar jobs in industry, business, and government, the occupations concerned primarily with the organization and efficient functioning of commercial enterprises, and of government activities.
4. Technology. This group includes occupations concerned with the

production, maintenance, and transportation of commodities and utilities. Here are occupations in engineering, crafts (including repair work), and the machine trades, as well as transportation and communication. Whether a physical scientist belongs in this group or in group 6 depends upon the setting in which he is working.

5. Outdoor. This group includes agricultural, fishery, forestry, mining and kindred occupations: the occupations primarily concerned with the cultivation, preservation and gathering of crops, of marine or inland water resources, of forest products, and other natural resources, and with animal husbandry.

6. Science. These are the occupations primarily concerned with scientific theory and its application under specified circumstances, other than technology.

7. General Cultural. These occupations are primarily concerned with the preservation and transmission of the general cultural heritage. The group embraces occupations concerning the subject usually called the humanities in college catalogues, but is broader than these. It includes occupations in education, journalism, jurisprudence, the ministry, linguistics, and so on. All elementary and high school teachers are included in this group. At higher levels teachers of science and art are placed in Groups 6 and 8.

8. Arts & Entertainment. These occupations include those primarily concerned with the use of special skills in the creative arts and in the field of entertainment. Both creators and performers are included.

At the time Roe published her book, she classified approximately 350 occupations in this way. In 1966, Dr. Roe and her associates at

Harvard reworked the list of occupations in accordance with the new Dictionary of Occupational Titles, and the new list consists of 650 occupations. An example of the classification system follows:

Level	Service	Business Contact	Organ-ization	Tech-nology	Outdoor	Science	General Cultural	Arts & Entertain-ment
I	Psychia-trist					Anthro-pologist	Lawyer	Architect
II	Social Worker	Public Relations Worker	Hospital Admini-strator	Airplane Pilot	Surveyor	Nurse,RN	Teacher	Actor
III	Police Chief	Sales Auto	Steno-grapher	Drafts-man	Forest Ranger	Dental Hygienist	Radio Announcer	Photo-grapher
IV	Practical Nurses	Driver Salesman	Book-keeper	Jeweler	Miner	Optician		Letterer
V	Waiter		Typist	Truck Driver	Chainman			
VI	Orderly		Mail Machine Operator	Cement Mason	Lumber-jack			Pinboy

Given this two-dimensional classification system, the Willowbrook Committee began to study the ways in which objective data available about every student could be related to it. It was decided to put student permanent records in computer storage, so that parts of the record can be used in helping a student make realistic vocational choices. In beginning operation, the committee decided to make use of cumulative class rank, composite score on a battery of tests, and an interest inventory, possibly the Kuder Preference Record. After data are gathered over years of experience, other items on the student record, such as grades in specific courses and personality ratings, may be used. The battery of tests which will be administered to sophomores yields a verbal and non-verbal ability score and six achievement scores

(Mathematics, Science, Reading, English, Social Studies, Solving Everyday Problems). The relationship of data to Roe's six levels will be as follows:

Cumulative Rank in Class									Composite Test Battery Score %
Top-One Quarter	I								Top Quartile 76-99%
1st-2nd Quarter	II								1st-2nd Quartile 51-99%
2nd-3rd Quarter	III								2nd-3rd Quartile 26-75%
2nd-3rd Quarter	IV								2nd-3rd Quartile 26-75%
3rd Quarter	V								3rd Quartile 26-50%
4th Quarter	VI								4th Quartile 1- 25%
KUDER		SOCIAL SERVICE	PERSUA -SIVE	CLER. COMPU- TATION	SCIENCE MECH. COMPU.	OUT- DOOR	SCIEN- TIFIC	LITER- ARY	ARTISTIC MUSIC LITERARY	

The computer is instructed to use the higher of the two criteria (rank or composite score) for its reactions, which will be explained later, in case of discrepancy. Should the test score be considerably higher than the rank in class, the computer will call this to the attention of the student.

IV. The Student Use of the System

Any student who wants to use the computer terminals may do so by scheduling an appointment with Mrs. Morgan, our full-time CVIS secretary. Students may come in person to set an appointment or may fill out a department form called "Request to see Counselor." Student response has been very enthusiastic. In spite of using three terminals on an eight-hour day, we are currently booked solid for the next five weeks.

The first time the student comes to the system, he goes through the entire script as included in the appendix. The second time he comes to the system, he receives the message "Hi, John Jones, the last time you were exploring occupations in the field of technology that require technical school training. In case you've forgotten, here's that list again (appears on screen). What would you like to do today?" From this point, the student may continue with that list, recall new lists by choosing different areas of interest and/or different educational plans, or recall the occupational briefs of any occupation which he may select from an alphabetical list. For your information in this report, we have included in the appendix a list of our 400 occupations by Roe category, and a sample occupational brief.

In addition to voluntary use of the system by any Willowbrook student, its use is being interwoven with a three-week vocational unit in the sophomore English curriculium. Our vocational counselor, Al Cocks, gives a general introduction to vocational exploration at the beginning of the English unit. He also administers and interprets the Kuder Preference Record. Next, he shows a 10-minute

tape-film presentation which has been developed by Willowbrook counselors to explain Roe interest categories by showing a sampling of jobs in our community which fall in each category. Then the CVIS secretary schedules all members of the class for use of the computer terminals. Finally, the class goes to the library, so that each student can explore an occupation of his choice in depth by use of resource material, and write a paper about it.

Next fall Willowbrook students will be able to get computer assisted instruction, make decisions and get information about military vocational training programs, entry jobs in DuPage County, technical and specialized schools within a 50-mile radius, local apprenticeships, the occupational curricula at the local College of DuPage and others, and 450 four-year institutions.

V. The Counselor Use of the System

Each of Willowbrook's twelve full-time counselors has an IBM 2260 display terminal in his office. On this terminal he can recall the student record of any one of his counselees. These displays are illustrated in the appendix. We have found that this capibility is not only time-saving to the counselor, but much more effective with the student. The test information display seems to do a much more adequate job with the student than any paper interpretation.

We have just added the records of our incoming Freshman class. The counselors are now holding half-hour interviews with each of our 900 incoming Freshmen and their parents. The personal data section is recalled during the interview for verification by the parents. Correction can be made by the counselor on-line. Next the test information frame is recalled for interpretation to student and parent. The third frame available now is "Recommendations for Sectioning". Here the counselor finds the computer recommendation for the selection of a Freshman Math course, Science course and English sectioning. These recommendations are possible because these three departments have outlined the selection variables based on past experience and follow-up. The programmer has written a program which instructs the computer to look at the appropriate sections of the test battery (ability score, Math achievement, and battery composite for Math) and the 8th grade teacher recommendation, to assign priority to the variables, and to make a recommendation.

In addition to student records, the counselor can recall any

one of the 400 occupational briefs on the screen by typing in JOB 101, for example. In this way he can discuss job duties, training requirements, employment outlook, etc. with a student in an interview situation.

Next year the counselor will also be able to recall information about all the kinds of training opportunities stored in the system.

VI. Student Reaction to CVIS.

We have enclosed here a copy of the questionnaire which each student is invited to fill out after using the computer system. Also enclosed on the following page is a tally sheet of the questionnaires which we have to date. Although this summary will capture the general highly positive attitude of the students, the real proof of acceptance is watching and listening to the student users.

They are saying some unexpected things, too. For example, it is easier to find out that you are in the 3rd or 4th quarter by ability or achievement from a machine than from a human. Second, the computer could care less about which occupations the student chooses to explore while human counselors make value judgments, or at least the kids think they do. A pretty girl said, "I wanted to read about being a nun. The computer didn't care, but my counselor would have laughed at me." A third reaction is that they want to "talk or type back to <u>him</u>." Our script has apparently succeeded in giving the computer a degree of human personality, which oddly enough is masculine in spite of its feminine unpredictability in the opening weeks of operation.

VII. System Design and Programming.

Here's a brief summary of the hardware we have:

At the College of DuPage (Naperville, Illinois, 15 miles away)

1 - 2030 360 Model 30 - 65K

2 - 2311 Files

1 - 2841 File Control

1 - 2701 for teleprocessing

1 - 1403 Printer

1 - 2540 Reader & Punch

1 - 2821 Reader Punch Printer Control

At Willowbrook High School

1 - 2848 Display Control Unit

1 - 1053 Typewriter Printer

14 - 2260 Cathode ray tubes

The Willowbrook equipment is connected to the computer by means of a private, high grade phone line with a data set at each end of the line.

The CVIS program is written in Basic Assembly Language in order to save space in core. The remote relay is controlled by another program which is written in B-Tam. These programs occupy 24K positions of core storage and operate in the foreground of the computer. Willowbrook is on-line from 7:30 A.M. until 10:00 P.M. five days per week.

Counselors use the system during the evening for 8th grade interviews, and the College of DuPage students are invited to use the Willowbrook equipment during this time.

Plans are being laid to invite high school students from all over the County to use the CVIS system during the summer months.

Project for the Computerization of Vocational Information
Beginning Script - October 1968

Hello. Please type in your student number and press the EOB key.

O.K. I think I've got your number. Is this right 456-123-789? If so, please press EOB. If not, please re-type your number.

1. (If first number was not correct) I now have your number recorded as _____. If this is right, press EOB. If not re-type your number and press EOB.
2. (If number is still incorrect) Since I am having difficulty getting your number right, please see the attendant.
3. I do not find your record in my memory, so we've got a problem. Please see the attendant.

Hi! Mary Swanson. That is your name isn't it? If yes, press EOB. If not, we've got problems. Type SOS and request help from the person in charge of the room.

By now you've learned that I'm not very sensitive about human relations. The only way that I know that you're ready for me to reply to you is for you to press the EOB key.

Welcome to CVIS. That stands for Computerized Vocational Information System. I'm an automated library of information about jobs. I have information stored in my memory about 400 jobs.

The information in my memory has been arranged in several ways - by area of interest, by amount of training required for the job, by job title.

You may decide what information you would like to look at. Since one of my best qualities is speed, I'll get any information you want very quickly.

In order to help guide you in your search for jobs, I've also made a mental note of all your semester grades since you entered high school and the results of ability & achievement tests which you have taken.

Ability, achievement and grades may or may not predict future success on the job, but they are the best things we now have to help you make selections.

Before we go to work I'd like to challenge you to a game of tic-tac-toe. I'll let you decide whether you want to move first or not.

1. I'll move first
2. I'll let CVIS move first
3. I don't want to play

(If student wants to play) Make your move by typing in the number of the "box" where you want to place your mark.

LOST - Maybe you'd like to try again at another time. Here's my record of wins. I'm so good at the game because I practice while you're out on dates.

WIN - Congratulations! You beat me! I want to show you my record though. I'm pretty good at the game. I practice while you're out on dates.

TIE - So, we've tied. Maybe we'll have a chance to play this off another day. Look at my total score.

We'd better get to work. You know how school is .....

Since there is probably a relationship between occupational level and your success as a learner, let's begin by looking at your school learning ability. We've tried to measure this by tests.

Try to remember how you did on the last tests you took. If you can't remember, I'll help you.

How do you think you did compared to students of your grade level in the nation?

1. Top Quarter
2. Second quarter
3. Third quarter
4. Bottom quarter

O.K. message - Good Show! You've got a good memory.

HIGH - Whoops! the last test placed you in the ..... quarter. You may want to check this out with a counselor.

LOW - No, you're in the ..... quarter. It's easy to under-rate yourself. Feel free to discuss this with a counselor.

We know that high school grades do well in predicting your success in further schooling. We really don't know how well they relate to your success on the job.

Try to think where you fit in your whole class based on your grade average at the end of last semester. Think about your semester grades in all your courses. Try to figure an average.

Now which quarter of the class do you think you'd be in?

1. Top quarter
2. Second quarter
3. Third quarter
4. Bottom quarter

O.K. - you're right. You may ask a counselor for your exact grade point average and rank if you'd like to.

HIGH - Maybe you forgot about some of your semester grades. Actually you are in the ..... quarter of your class. Talk this over with your counselor if you'd like to.

LOW - I have a pleasant surprise for you. You're in the ..... quarter.

Next we should think about your plans after high school. These plans will have a very definite relationship to the kind of job that you can get.

Keeping in mind what we have just reviewed about your school ability and achievement select the amount of education and job training you are planning immediately after high school.

Later of course, you may decide to continue your education. But for now just think of your initial plans and type the number of your choice from the list that follows.

1. No further training after high school
2. Some training on the job (2-6months)
3. Trade school or apprenticeship.
4. Junior College (2 years) or technical school (6-18months)
5. Four years of college.
6. Advanced degrees after college (PhD.orMD.)

(If test information and grades agree or if grades are the higher of the two)

The plan you have chosen seems fine.

(If test scores are higher than grades)

This plan seems fine based on your ability as measured by tests. At this time your grades are not as high as your ability predicts they could be.

OR

Your high school record indicates that you could successfully complete more education. Let's go ahead and look at the jobs available with this kind of training. You may want to dicuss this with a counselor.

OR

That's not going to be easy for you considering your grades this far. Your choice of school will be important. You may want to discuss this with a counselor. Let's go ahead and see what kind of occupations there are with this kind of training.

OR

Your choice puzzles me somewhat. I've compared it with your high school record, and the two don't seem to match. The best way to clear up this problem would be to see a counselor.

You may decide what you'd like to do. Just type in the number of your choice (only applies to the previous message)

1. Continue with this plan of education.
2. Sign off and see a counselor.
3. See the list of educational plans again.

Work can be fun if it's interesting to you. The occupations in my memory are divided into 8 broad areas of interest. I'm going to give you a brief description of each area. Then I'll give you the whole list again and ask you to choose one interest area which you wish to explore.

1. Service - People in these occupations help other people or serve their personal needs. Examples are beauty operator, policemen , social worker, counselor and psychologist.

2. Business Contact - People in these jobs sell products or services by face to face contact with other people. This includes real estate, stocks & bonds, services and all kinds of products.

3. Organization - These are the "white collar" jobs in business, industry, and government. They are typically "desk jobs" which are necessary for the smooth running of business and government activities. Examples are hotel manager, stenographer, typist, and certified public accountant.

4. Technology - People in these jobs are concerned with the production, maintenance, and transportation of goods and utilities. They are often those who put scientific theory into action and like to work with things rather than people. Engineers, pilots, electricians, plumbers, computer programmers are included in this group.

5. Outdoor - People who work outside are included in this group. They include forest rangers, surveyors, landscape architects, construction workers and farmers.

6. Science - People in these occupations do scientific research, develop scientific theory and apply it. This group includes all the health careers. Other examples are chemists, biologists, dental hygenists, and X-ray technicians.

7. General Cultural - People in these occupations attempt to pass on to others the culture of our society. These occupations are related to the kind of subject matter called "Humanities" Examples are elementary school teachers, high school teachers, lawyers, ministers and journalists.

8. Arts & Entertainment- This group includes the performing artists, such as actors, T.V. performers and musicians. It also includes artistic occupations such as architects, interior decorators and photographers.

Now I'll show you the list again.

1. Service
2. Business Contact
3. Organization
4. Technology
5. Outdoor
6. Science
7. General Cultural
8. Arts & Entertainment

Please choose one that you would like to explore and type in the number.

You showed significant interest in this field on the last interest inventory you took

OR

This is a new area of interest for you. The interest inventory which you recently took showed interest in .....,o ahead and explore this new one.

Now I'm ready to give you a list of suggested jobs to explore. I'm going to type these for you so that you can keep the list. I can only type at 180 wpm so please be patient with me.

I'll tell you more about any or all of the occupations on this list, or, if you don't see any jobs that you are interested in, you can get a new list by changing your choice of interest area and/or amount of education beyond high school.

Your wish is my command:

1. I would like to find out more about some occupations on this list.
2. I want to receive a new list in this category.
3. I want to make new decisions about education and/or interest and receive a new list.
4. I want to sign off.

Please type in the number of your choice.

(If number 1) - Just type in the number of the occupation on the list which you wish to explore.

I'm going to give you a short definition of this job first.

Now do you want to know more about this job, or do you want to choose another job on your list?

1. I want more information
2. I want to choose another job on the list.
3. I want to make new decisions and receive a new list.
4. I want a new list in this category of interest and education.
5. I want to sign off.

Please type in the number of your choice.

(If number 1) O.K. I'm going to type this for you so that you may keep it.

You may tear off what I have just typed for you and take it home with you. If you want more information, check the vocational resource room.

I am interested in your reaction to this occupation.

What did you like about it? You may type in as many answers as you like:

1. The things I would do on the job.
2. The amount of training required for the job.
3. The salary.
4. The future of the occupation.
5. The kind of life I would have in this occupation.
6. The kind of people I would meet.

What did you dislke about this occupation? You may type in as many answers as you wish:

1. The things I would do on the job.
2. The amount of training required for the job.
3. The salary.
4. The future of the occupation.
5. The kind of life I would have in this occupation.
6. The kind of people I would meet.

SECOND TIME ON SYSTEM

You liked me well enough to come back again, huh! Good. The last time you had me chasing occupations in the interest category of ..... with..... level of training. In case you've forgotten, here's that list again.

You may continue with this list, get a new one, or explore individual occupations. Which one would you like to do?

THIRD TIME ON THE SYSTEM

So this is your 3rd trip! I'm glad you find me useful. What would you like to do today?

1. Look at your list again.
2. Get a new list of occupations.
3. Choose any occupation from my 400.

Computerized Vocational Information System

Beginning List of Occupations

September, 1968

SERVICE 1-6

100 Lawyer

102 Physician

104 Psychiatrist

106 Psychologist

108 Veterinarian

SERVICE 1-5

120 Agricultural Extension Worker

110 Caseworker

112 Child Welfare Worker

114 Counselor, Rehabilitation

116 Counselor, School

118 Counselor, Vocational

122 FBI Agent

124 Home Demonstration Agent

126 Librarian

128 Minister

130 Mortician

139 Nun

650 Nurse, RN

132 Occupational Therapist

136 Physical Therapist

138 Priest

106 Psychologist

140 Pupil Personnel Worker

142 Rabbi

143 Social Worker, Community

145 Social Worker, Group
*

152 Teacher, Elementary

154 Teacher, Kindergarten

156 Teacher, Secondary

158 Teacher, Special Education

160 Travel Agent

*150 Social Worker, School

SERVICE 1-4

650 Nurse, RN

160 Travel Agent

168 Policeman

170 Policewoman

174 Steward, Airline

176 Stewardess, Airline

SERVICE 1-3

162 Barber

164 Beautician

178 Cook, Restaurant

168 Policeman

170 Policewoman

172 Practical Nurse

174 Steward, Airline

176 Stewardess, Airline

SERVICE 1-2

178 Cook, Restaurant

180 Firefighter

182 Service Station Attendant

184 Taxi Driver

186 Waiter

188 Waitress

SERVICE 1-1

190 Bellman

194 Nurses' Aide

196 Orderly

186 Waiter

188 Waitress

BUSINESS CONTACT 2-6

No Occupations

BUSINESS CONTACT 2-5

212 Buyer

214 Manufacturers' Salesman

216 Public Relations Worker

218 Traffic Agent

160 Travel Agent

BUSINESS CONTACT 2-4

212 Buyer

220 Insurance Agent

222 Salesman, Auto

224 Salesman, Real Estate

226 Salesman, Securities

214 Salesman, Wholesale

160 Travel Agent

BUSINESS CONTACT 2-3

224 Salesman, Real Estate

226 Salesman, Securities

BUSINESS CONTACT 2-2

230 Retail Sales Clerk

232 Routeman

234 Salesman, Door to Door

BUSINESS CONTACT 2-1

230 Retail Sales Clerk

300 Economist

ORGANIZATION 3-5

310 Account Executive

312 Actuary
*

314 Certified Public Accountant

316 Computer Programmer

318 Controller, Bank

728 Editor, Book

729 Editor, Magazine

730 Editor, Newspaper

320 Hospital Administrator

322 Hotel Manager

324 Industrial Traffic Manager

325 Interpreter

326 Loan Officer, Bank

330 Personnel Worker

332 Production Manager, Advertising

216 Public Relations Worker

334 Purchasing Agent

328 Research Director, Advertising

218 Traffic Agent, Air

* 340 Bank Cashier

338 Accountant

342 Bank Clerk

344 Bank Teller

351 Buyer

316 Computer Programmer

034 Dispatcher, Airline

346 Employment Interviewer

367 Food Store Manager

348 Hotel Housekeeper

322 Hotel Manager

324 Industrial Traffic Manager

373 Restaurant Manager

350 Secretary-Stenographer

ORGANIZATION 3-3

352 Adding Machine Operator

342 Bank Clerk

354 Billing Machine Operator

356 Bookkeeper

358 Bookkeeping Machine Operator

351 Buyer

360 Calculating Machine Operator

362 Clerk Biller

364 Computer Console Operator

366 Conductor, Railroad

367 Food Store Manager

368 Hi Speed Printer Operator

370 Hotel Clerk

348 Hotel Housekeeper

334 Purchasing Agent

372 Receptionist

373 Restaurant Manager

230 Retail Sales Clerk

374 Station Agent, Railroad

376 Tape Librarian

ORGANIZATION 3-2

378 Cashier, Box Office

380 Cashier, Check-out

382 Clerk typist

384 Clerk, Mortgage

386 Clerk, Shipping

388 Clerk, Waybill

389 Duplicating Machine Operator

390 Key Punch Operator

391 Mail Carrier

392 PBX Operator

393 Policy Writer

394 Postal Clerk

372 Receptionist

232 Routeman

395 Tabulating Machine Operator

396 Tape Perforator Operator

446 Telegrapher - Teletypist

398 Telephone Operator

399 Ticket Agent, Airline

ORGANIZATION 3-1

309 Sorting Machine Operator

TECHNOLOGY 4-6

001 Aerospace Engineer

002 Agricultural Engineer

003 Ceramic Engineer

004 Chemical Engineer

005 Civil Engineer

006 Electrical Engineer

007 Industrial Engineer

008 Mechanical Engineer

009 Metallurgical Engineer

010 Mining Engineer

TECHNOLOGY 4-5

015 Air Traffic Controller

316 Computer Programmer

016 Dispatcher

001 Engineer, Aerospace

002 Engineer, Agricultural

003 Engineer, Ceramic

004 Engineer, Chemical

005 Engineer, Civil

006 Engineer, Electrical

007 Engineer, Industrial

008 Engineer, Mechanical

009 Engineer, Metallurgical

010 Engineer, Mining

011 Engineer, Ship

017 Medical Laboratory Technician

018 Pilot

019 Systems Analyst

020 Technical Writer

TECHNOLOGY 4-4

025 Appliance Serviceman

035 Computer Console Operator

026 Computer Personnel

316 Computer Programmer

027 Dental Hygienist

028 Dental Laboratory Technician

034 Dispatcher, Airline

029 Draftsman

011 Engine Occupations, Ship

096 Engineering Technician

030 Flight Engineer

031 Ground Radio Operator

032 Layout Man

033 Machinist

676 Medical X-ray Technician

018 Pilot

404 TV-Radio Repairman

TECHNOLOGY 4-3

040 Aircraft Mechanic
025 Appliance Serviceman
042 Arc Cutter
044 Auto Body Repairman
045 Auto Mechanic
046 Blacksmith
047 Boilermaker
048 Bookbinder
049 Bricklayer
050 Broadcast Technician
408 Cable Splicer - Electric Power
052 Cable Splicer - Telephone
053 Cameraman
054 Carman
055 Carpenter
056 Compositor
057 Conductor, Freight
058 Coremaker
059 Detailer
060 Electrician - Construction
061 Electrician - Maintenance
062 Electroplater
063 Electrotyper
064 Elevator Contructor
011 Engine Occupations, Ship
067 Instrument maker
068 Instrument repairman
069 Jeweler
070 Lather
032 Layout Man
409 Lineman, Electric Power
071 Lineman, Telephone
072 Locomotive Engineer
073 Locomotive Fireman
033 Machinist
074 Make up Man
075 Marble Setter
410 Mechanic, Air Conditioning & Refrigeration
076 Meter Installer
077 Meter Repairman
078 Meter Tester
079 Millwright
411 Moulder, Foundry
081 Optical Mechanic
082 Ornamental Iron Worker
083 Patternmaker
084 PBX Installer & Repairman
085 Plumber, Pipefitter
086 Printer
087 Proofer
473 Re-inforcing Iron Worker
088 Roofer
089 Set-up Man
090 Sheetmetal Worker

TECHNOLOGY 4-3 contd.

441 Stationary Engineer
191 Stonehand
092 Stonemason
093 Stripper
094 Structural Iron Worker
096 Technician, Engineering
097 Telephone Installer
098 Telephone Repairman
400 Tool & Die Maker
401 Tool Designer
402 Tracer
403 Troubleman
404 TV-Radio Repairman
405 Watch Engineer
406 Watch Repairman
407 Welder

TECHNOLOGY 4-2

042 Arc Cutter
420 Asbestos Insulation Worker
422 Boiler Operator
423 Brakeman, passenger
424 Bus Driver, Inter City
475 Bus Driver, Local
051 Business Machine Serviceman
056 Compositor
428 Floor covering Installer
427 Glazier
428 Inspector
429 Linotype Operator
430 Load Dispatcher
* 431 Machine Tool Operator
432 Monotype Operator
453 Oxygen Cutter
454 Painter
433 Paper Hanger
434 Photo Typeset Operator
435 Plasterer
436 Platemaker
437 Powerplant Equipment Operator
438 Power Truck Operator
439 Pressman
440 Proofreader
090 Sheet Metal Worker
441 Stationary Engineer
442 Stationary Fireman
443 Stereotyper
091 Stonehand
092 Stonemason
444 Sub-station Operator
445 Switchboard Operator
446 Telegrapher - Teletypist
448 Telephoner, Railroad
449 Terrazzo Worker
450 Towerman, Railroad
402 Tracer
451 Turbine Operator
452 Welding Machine Operator

* 074 Make-up Man
474 Mechanic, Diesel
469 Milling Machine Operator

TECHNOLOGY 4-1

421 Brakeman, Freight

460 Concrete Paver

461 Coremaker Helper

465 Frameman
466 Groundman
467 Hod Carrier

475 Mechanic, Diesel

468 Meter Reader

470 Painter, Production

471 Platter

472 Power Shovel Operator

474 Truck Driver

OUTDOOR **5-6**

500 Archaeologist

503 Geologist

613 Geophysicist

622 Petrologist

OUTDOOR 5-5

506 Agronomist

546 Deckman, Ship

540 Farmer, Corn & Wheat

541 Farmer, Cotton & Tobacco

543 Farmer, Dairy

544 Farmer, Livestock

507 Fish & Wildlife Specialist

509 Forester

512 Hydrologist

515 Landscape Architect

010 Mining Engineer

622 Petrologist

518 Professional Athlete

521 Range Manager

524 Recreation Worker

525 Ship Captain

536 Soil Conservationist

527 Soil Scientist

530 Surveyor

656 Tectonophysicist

OUTDOOR 5-4

546 Deckman, Ship

533 Forest Technician

518 Professional Athlete

525 Ship Captain

530 Surveyor

OUTDOOR 5-3

049 Bricklayer

539 Bulldozer Operator

052 Cablesplicer, Telephone

055 Carpenter

540 Farmer, Corn & Wheat

541 Farmer, Cotton & Tobacco

543 Farmer, Dairy

544 Farmer, Livestock

409 Lineman, Electric Power

071 Lineman, Telephone

473 Re-inforcing Iron Worker

403 Troubleman

530 Surveyor

OUTDOOR 5-2

539 Bulldozer Operator

542 Cement Mason

554 Construction Laborer

546 Deckman, Ship

473 Re-inforcing Iron Worker

454 Painter

OUTDOOR 5-1

548 Brakeman, Freight

554 Construction Laborer

466 Groundman

467 Hod Carrier

551 Trackworker, Railroad

600	Anatomist
601	Anthropologist
500	Archaeologist
603	Astronomer
604	Astrophysicist
605	Biochemist
630	Biologist
606	Biophysicist
607	Botanist
670	Cartogtapher
608	Chemist
641	Dentist
609	Ethnologist
610	Geochemist
644	Geodesist
611	Geographer
503	Geologist
645	Geomagnetician
612	Geomorphologist
613	Geophysicist
614	Linguist
648	Mathematician
615	Meteorologist
616	Microbiologist
617	Mineralologist
618	Oceanographer
652	Optometrist
619	Osteopathic Physician
620	Paleontologist
621	Pathologist
622	Petrologist
102	Physician
623	Physicist
624	Physiologist
629	Podiatrist
104	Psychiatrist
106	Psychologist
625	Sedamentologist
626	Statistician
627	Stratographer
108	Veterinarian
628	Zoologist

506 Agronomist
600 Anatomist
630 Biologist
607 Botanist
670 Cartographer
608 Chemist
640 Climatologist
120 County Agricultural Agent
641 Dentist
642 Dietitian
643 Entomologist
644 Geodesist
611 Geographer
645 Geomagnetician
613 Geophysicist
124 Home Demonstration Agent
646 Home Economist
647 Horticulturist
512 Hydrologist
648 Mathematician
017 Medical Laboratory Technician
649 Medical Record Librarian
673 Medical Technologist
615 Meteorologist
616 Microbilogist
130 Mortician
650 Nurse, R.N.
651 Nutritionist
618 Oceanographer
652 Optometrist
653 Pharmacist
654 Pharmacologist
136 Physical Therapist
623 Physicist
655 Seismologist
626 Statistician
656 Techtonophysicist
658 Wood Scientist
657 Wood Technologist

SCIENCE 6-4

671 Chiropractor
027 Dental Hygienist
028 Dental Laboratory Technician
672 Laboratory Technician
649 Medical Record Librarian
673 Medical Technologist
650 Nurse, R.N.
674 Podiatrist
675 Reporter
096 Science Technician
536 Soil Conservationist
676 Medical X-ray Technician

SCIENCE 6-3

672 Laboratory Technician
690 Optician
172 Practical Nurse
096 Science Technician

SCIENCE 6-2

No Occupations

SCIENCE 6-1

No Occupations

500 Archaeologist

300 Economist

700 Historian

100 Lawyer

702 Librarian

704 Political Scientist

706 Professor, College

708 Sociologist

GENERAL CULTURAL 7-5

728 Editor, Book

729 Editor, Magazine

730 Editor, Newspaper

325 Interpreter

126 Librarian, Public

128 Minister

739 Newspaper reporter

139 Nun

704 Political Scientist

138 Priest

706 Professor, College

142 Rabbi

760 Radio-TV Announcer

152 Teacher, Elementary

154 Teacher, Kindergarten

156 Teacher, Secondary

158 Teacher, Special Education

740 Urban Planner

742 Writer

GENERAL CULTURAL 7-4

760 Radio-TV Announcer

GENERAL CULTURAL 7-3

No Occupations

GENERAL CULTURAL 7-2

No Occupations

GENERAL CULTURAL 7-1

No Occupations

ARTS & ENTERTAINMENT 8-6

800 Architect

ARTS & ENTERTAINMENT 8-5

310 Account Executive, Advertising

810 Actor

812 Actress

814 Art Director

816 Commercial Artist

818 Dancer

820 Fashion Designer

824 Interior Decorator

826 Layout man, Advertising

828 Musician

518 Professional Athlete

760 Radio-TV Announcer

830 Singer, Singing Teacher

832 Teacher, Art

834 Teacher, Music

742 Writer

ARTS & ENTERTAINMENT 8-4

810 Actor

812 Actress

816 Commercial Artist

850 Copywriter, Advertising

818 Dancer

852 Floral Designer

824 Interior Decorator

826 Layout man, Advertising

854 Model

856 Photographer

518 Professional Athlete

ARTS & ENTERTAINMENT 8-3

852 Floral Designer

854 Model

518 Professional Athlete

ARTS & ENTERTAINMENT 8-2

No Occupations

ARTS & ENTERTAINMENT 8-1

No Occupations

MAINTENANCE ELECTRICIANS

MAINTENANCE ELECTRICIANS MAINTAIN AND KEEP MANY DIFFERENT TYPES OF ELECTRICAL EQUIPMENT IN GOOD WORKING ORDER PRINCIPALLY BY DETECTING AND REPAIRING DEFECTIVE EQUIPMENT BEFORE A BREAKDOWN OCCURS.

MANY WORK IN MANUFACTURING PLANTS, ESPECIALLY OF TRANSPORTAION EQUIPMENT, CHEMICAL AND ALLIED PRODUCTS, AND NONELECTRICAL MACHINERY. OTHERS WORK IN COMMUNICATIONS, PUBLIC UTILITIES, MINES, AND WHOLESALE AND RETAIL TRADE ESTABLISHMENTS.

THE MAINTENANCE ELECTRICIAN MAY READ BLUEPRINTS OF WIRING, MAKE MATHEMATICAL CALCULATIONS, AND SPLICE, SOLDER, BUT, BEND, MEASURE, AND INSTALL WIRE AND CONDUIT. HE MAY REPAIR OR REPLACE WIRING, FUSES, TRANSFORMERS, COILS, OR SWITCHES. HE USES PLIERS, WRENCHES, SCREW-DRIVERS, KNIFE, DRILLS, AND OTHER HAND TOOLS FOR INSTALLATION AND REPAIR WORK; AND TEST LAMPS, AMMETERS, VOLT-OHM METERS, AND OSCILLO-SCOPES TO TEST EQUIPMENT.

A PROSPECTIVE MAINTENANCE ELECTRICIAN NEEDS GOOD HEALTH, COLOR VISION, MANUAL DEXTERITY, AND MECHANICAL APTITUDES. HE SHOULD HAVE A KEEN SENSE OF RESPONSIBILITY AND BE SELF-RELIANT. AT LEAST A HIGH SCHOOL EDUCATION IS NECESSARY, INCLUDING SUCH COURSES AS ALGEBRA, TRIGONOMETRY, PHYSICS, ELECTRICITY, AND SCIENCE. ABILITY TO READ BLUEPRINTS IS IMPORTANT. BECAUSE ELECTRICAL WORK IS CHANGING, IT IS ALSO IMPORTANT THAT THE MAINTENANCE ELECTRICIAN ACQUIRE ADDITIONAL FORMAL TRAINING FROM TIME TO TIME.

OFTEN THIS ELECTRICIAN NEEDS TO KNOW LOCAL BUILDING CODES, AND WHERE A LICENSE IS REQUIRED, IT CAN BE OBTAINED BY PASSING A COMPREHENSIVE EXAMINATION.

MOST MAINTENANCE ELECTRICIANS APPLY FOR APPRENTICESHIPS THROUGH THE UNION OR THROUGH THEIR EMPLOYER, BUT IT IS DIFFICULT TO GET ACCEPTED INTO THIS PROGRAM AS THE NUMBER OF APPRENTICES ARE LIMITED TO A PROPORTION OF THE NUMBER OF JOURNEYMEN EMPLOYED BY A UNION SHOP.

ADVANCEMENT DEPENDS TO A LARGE DEGREE ON OPENINGS AND ON SENIORITY IN THE UNION. THEY MAY ADVANCE TO CONSTRUCTION ELECTRICIAN, FOREMAN, OR PLANT MAINTENANCE SUPERINTENDENT.

THERE IS AN INCREASE IN JOBS EXPECTED IN THIS FIELD DURING THE NEXT DECADE DUE PRIMARILY TO THE EXPECTED INCREASE IN INDUSTRIAL ACTIVITY, THE NUMBER OF NEW HOMES TO BE BUILT, AND THE CONTINUAL INCREASE IN ELECTRICAL DEVICES. MANY NEW JOBS WILL OCCUR IN THE PRIMARY METAL, FABRICATED METAL, MACHINERY, AND CHEMICAL INDUSTRIES.

THE HOURLY WAGE FOR MAINTENANCE ELECTRICIANS IN A SURVEY OF 77 CITIES IN 1964 RANGED FROM $2.07 TO $3.63. APPRENTICES START AT ABOUT 60 PERCENT OF THE JOURNEYMANS WAGE.

A MAINTENANCE ELECTRICIAN SPENDS MOST OF HIS 40 HOUR WORKWEEK INSIDE, IN A VARIETY OF CONDITIONS SUCH AS A CLEAN, CARPETED OFFICE, OR A NOISY, DRAFTY INDUSTRIAL PLANT. THE WORK MAY INCLUDE CLIMBING LADDERS, WORKING IN CRAMPED QUARTERS, OR IN SPACIOUS COMFORTABLE SURROUNDINGS. THIS ELECTRICIAN MAY WORK AT NIGHT OR OVER WEEKENDS, BUT OVERALL HE IS LESS AFFECTED BY SEASONAL WORK THAN THE CONSTRUCTION ELECTRICIAN.

THE WORK OF THE MAINTENANCE ELECTRICIAN IS NOT CONSIDERED A ROUTINE JOB. HE WILL NOT USUALLY WORK IN ANY ONE LOCATION FOR ANY LENGTH OF TIME, AND WILL COME IN CONTACT WITH A VARIETY OF PEOPLE WORKING IN DIFFERENT CAPACITIES IN HIS PLACE OF EMPLOYMENT.

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S T U D E N T R E C O R D D I S P L A Y S

PROJECT CVIS

January, 1969

Willowbrook High School
Villa Park, Illinois

I. Personal Data

098634926 PERSONAL DATA

DOE, JOHN CHARLES M 10-24-43
17W211 SUNSET DR., LOMBARD
MR. & MRS. ALEXANDER DOE
ELECTRICAL ENGINEER BUS: 627-4340
CHILDREN: 08 HOME: 834-6210
BIRTH: CHICAGO, ILL.

HEALTH:	HLL	EPL	R	D	P
ENTRY:	09-14-66	JEFFERSON		06-15-70	
RE:		WD		WD	

II. Test Information - EDS Display

EDS LOCAL	1	2	3	4	5	6	7	8	9
NON VERBAL			xxx						
VERBAL				xxx					
ABL COMP				xxx					
READING				xxx					
ENGLISH			xxx						
MATH				xxx					
BASIC COMP				xxx					
SCIENCE			xxx						
SOC STUD				xxx					
SOLVING					xxx				
TOTAL COMP				xxx					

II. Cont. Test Information: National Merit and ACT

NATL NORMS		1	2	3	4	5	6	7	8	9
NMSQT	ENG 26						xxx			
	M 25					xxx				
02-68	S 25					xxx				
	SS 24					xxx				
	COMP 25						xxx			
ACT	ENG 22				xxx					
	M 24					xxx				
10-68	S 27						xxx			
	SS 26						xxx			
	COMP 26						xxx			

II. Cont. Test Information: College Boards and PSAT

CEEB NATIONAL NORMS

	1	2	3	4	5	6	7	8	9
PSAT VERB 48					xxx				
MATH 47					xxx				
CEEB VERB 500						xxx			
MATH 510						xxx			

03-68

II. Test Information - Cont. - Kuder

KUDER INTEREST 09-68

	1	2	3	4	5	6	7	8	9
OUTDOOR	xxx								
MECHANICAL		xxx							
COMPUTATION							xxx		
SCIENTIFIC								xxx	
PERSUASIVE		xxx							
ARTISTIC			xxx						
LITERARY			xxx						
MUSICAL		xxx							
SOC SERV		xxx							
CLERICAL				xxx					

II. Test Information - Cont. - Composite Display

COMPOSITES	1	2	3	4	5	6	7	8	9
EDS ABL						xxx			
EDS BASIC						xxx			
EDS TOTAL						xxx			
PSAT V 51					xxx				
PSAT M 49						xxx			
NM C 26					xxx				
ACT C 27						xxx			
SAT V 490					xxx				
SAT M 510						xxx			
RANK				xxx					
GRADE EQUIV	F		D		C		B		A

III. Course and Grade Information
By Year

FRESHMAN YEAR 1967-68

	SEM 1	2		CR
ENGLISH 9	B	B		200
GENERAL SCIENCE 9	C	B		200
ALGEBRA 9	D	C		200
INTRO BUS 9	B	C		200
P E 9 HEALTH	B	B	C	100
				900

GPA 2.45
RANK 225/898

III. Course and Grade Information
By Department

MATHEMATICS

		SEM 1	2	CR
66-67	ALGEBRA 9	B	B	200
67-68	GEOMETRY 10	B	C	200
SS-68	MATH 11	C	C	200
68-69	COMP PROG I		B	100
69-70	MATH 12	C	C	200
				900

III. Course and Grade Information - Continued - Health & P.E. Display

PHYSICAL EDUCATION

		1	2	H	CR
66-67	P E 9	B	B	C	100
67-68	P E 10	C	B	C	100
68-69	P E 11	C	C	F	75
69-70	HEALTH 11			D	25
69-70	P E 12	C	C	D	100
					400

III. Course and Grade Information - Continued - Current Schedule

CURRENT SCHEDULE

PER	COURSE	TEACHER	ROOM
1	ENG 11	DCL	122
2	AMER HIST 11	FCC	212
3	CONC ORCH	PCS	4C
4	HR/LUNCH	FNH	132
5	P E 11-10		GYM
6	MATH 11	DMK	324
7	BUS PSYCH 11	JMV	316
8			

IV. Attendance and Tardiness

ATTENDANCE & TARDINESS

	DAYS ABS	TIMES
1	10	0
2	12	1
3	8	2
4	7	0
5		

V. Personality Ratings

PERSONALITY	EXC				ABV				AVER				BLW				POOR			
	F	S	J	S	F	S	J	S	F	S	J	S	F	S	J	S	F	S	J	S
PURPOSE					1	2	3		2	2	1		1							
INITIATIVE					1	2	3		1	1	1		1				1	1		
LEADERSHIP					2	1	1		2	2	1			1	1				1	
RELIABILITY					2	1	3		2	3	1									
WORKING OTHERS					2	1	3		2	1	1			2						
CONCERN OTHERS					1	2	3		2	2				1	1					
EMOTIONAL HLTH					4	2	3			2					1					
APPEARANCE					4	3	2			1					2					
COURTESY	1	1	2		1	2	2		2	1										

VI. Extra Curricular Activities

	ACTIVITIES
FR	MEMBER, GIRLS CLUB
SOPH	PRES, GIRLS CLUB; MEM, SPANISH CLUB
JR	REP, STUDENT COUNCIL; TREAS, DEBATE CLUB
SR	

WILLOWBROOK HIGH SCHOOL
GUIDANCE DEPARTMENT

The following questions are being asked in order to find out how valuable Project CVIS has been to you and to help us improve it for you and others. We appreciate your time in answering these questions:

1. Did you learn anything about yourself from using the computer?

   Yes 63% No 22% Don't Know 15% If yes, please explain _____

   _____

2. Did you learn anything new about occupations? Yes 68.7% No 17%

   Don't Know 14.3% If Yes, please explain _____

   _____

3. If you received a list of occupations today, did it give you some new ideas which you had not had before? Yes 46.8% No 42.6% Don't Know 10.6%
   If Yes, please explain _____

4. Will you explore these further? Yes 77.5% No 11.6% Don't Know 10.9%

   How? Counselor 22.2% Computer 30.8% Vocational Library 33.3%
   Other 13.7%

   Please explain _____

5. What was your reaction to "machine counseling" _____

   Student reaction to Question 5:
   Exciting, Neat, Cool, Real Great, Fun, Enjoyable - 100
   Friendly - 2
   Amazing, outstanding, Hard to Believe-7
   Lots of good information - 11
   Confusing - 2
   O.K. or Pretty good - 9
   Not impressed - 1
   Accurate & Objective - 2

   What did you like about it? :
   Everything - 8
   Good, accurate information - 52
   Interesting & different - 18
   Fun - 5
   Speed & Ease - 34
   Helped me make a decision - 5
   Mechanical perfection - 2

5. What did you like about it? : It knows a lot - 4
The way it talks - 11
Friendliness, knows my name - 3
I can control it - 2
It's honest - 1
It knows my capabilities - 1

5. What did you dislike about it? : Nothing - 96
Record not stored - 4
Not enough information about occupations - 6
Machine too slow - 1
Machine too fast - 2
Did not have desired occupations - 5
Student didn't have enough time - 4
Operation was complicated - 4
Machine won at Tic-Tac-Toe - 4
Machine gets mixed up - 2
Machine did not make a choice for student - 1

6. Were you looking for some occupations which you did not find in our beginning selections? Yes 26% No 74% If yes, which ones _____

_____

7. Was the "conversation" with the computer interesting? Yes 97.3%
No 2.7%

Do you have some suggestions for improving it? _____

_____

8. Were the occupational briefs informative? Yes 96% No 4%
Were they interestingly written? Yes 97.8% No 2.2%
Do you have any suggestions for improving the occupational briefs?

_____

_____

9. What could we do to make this experience more helpful to you? _____

_____

_____

10. Please make any comment about today's use of the computer which would help us know how you feel about CVIS. _____

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